Rev 9 - Trench 31 & 34 Addenda C - Treatment Text Highligted
Biebesheimer, Joanette (ECY)
to:
Conaway, Kathy (ECY)
01/23/2012 01:33 PM
Cc:
Dave Bartus
Hide Details
From: "Biebesheimer, Joanette (ECY)" <JBIE461@ECY.WA.GOV>
To: "Conaway, Kathy (ECY)" <KCON461@ECY.WA.GOV>,
Cc: Dave Bartus/R10/USEPA/US@EPA

C.0 OPERATING UNIT GROUP 17 OPERATIONS

Operating Group 17 consists of Low Level Burial Ground Trenches 31 & 34, and two associated container storage units.

C.1 OPERATING UNIT GROUP DESCRIPTION AND GENERAL PROVISIONS

The Low Level Burial Ground (LLBG) Trenches 31 & 34 are located within 218-W-5 Burial Ground in the 200 West Area. LLBG Trenches 31 & 34 provide treatment, storage and disposal for mixed waste and disposal of dangerous wastes when the wastes are LDR compliant. There are also two associated container storage units that provide for temporary storage of containerized waste prior to disposal. Background and process description of all the dangerous waste management units in this operating unit group are provided below. A more detailed discussion of waste types is provided in Addendum B, Waste Analysis Plan.

Table 1 below provides a summary of Treatment, Storage, and Disposal design capacities Volumes for LLBG Trenches 31 & 34 and the associated storage units.

Table 1. Summary of Treatment, Storage, and Disposal Capacity for LLBG Trenches 31 & 34 and associated container storage units

UNIT	TREATMENT	STORAGE	DISPOSAL
Trench 31	100 m3 (131 yd3) per day	10,000 m3 (13,080 yd3)	21,408204 m3 (28,0007,734 yd3) per trench*
Trench 34	100 m3 (131 yd3) per day	10,000 m3 (13,080 yd3)	21,204 m3 (28,0007,734 yd3) per trench*
Trench 31 Waste Container Storage Pad Treatment Unit	N/A	2650690 m3 (34660.5902 yd3)**	N/A
Trench 34 Container Storage Treatment Unit	N/A	2650690 m3 (34660.5902 yd3)**	N/A

*Based on trench floor dimensions of 76 m (250 ft) long by 31 m (100 ft) wide and a depth of 9 m (30 ft). Also assumes a 4.9 m (16-ft) final cover thickness over the final volume of disposed waste.

**Based on an area 45.7 m (150 ft) wide by 45.7 m (150 ft) long.

C.1.1 LLBG Trenches 31 & 34 DESCRIPTION

LLBG Trenches 31 & 34, each which are large rectangular excavations in the southwest corner of the 218 W 5 Burial Ground, currently are operated as units for treatment, storage, and disposal disposal of dangerous and/or mixed waste units for MLLW. The LLBG Trenches 31 & 34 are constructed with polyethylene liners and leachate collection system, discussed in more detail in Section C.2.
All mixed waste destined for disposal in LLBG Trenches 31 & 34 must meet land disposal restriction (LDR) requirements [40 CFR Part 268, incorporated by reference by WAC 173 303-140] or a site specific treatability variance approved by Ecology. Mixed waste to be placed in LLBG Trench 31 & 34 may include bulk waste, long length contaminated equipment. A diverse range of waste containers can be managed at Trenches 31 & 34 and the associated container storage units including, but not limited to, containers/drums, waste boxes, and miscellaneous equipment.
At the top of the trenches, LLBG Trenches 31 & 34 are approximately 137 m (450 ft) long by 91 m (300 ft) wide, and approximately 9 m (30 ft) in depth. The trenches are rectangular with 3H:1V (horizontal: vertical) side slopes. The trench floors are approximately 76 m (250 ft) long by 31 m (100 ft) wide.

C1.1.1 LLBG Trench 31 & 34 Process Design Capacities

The following provides supplemental information on the process design capacities for treatment, storage, and disposal at LLBG Trenches 31 & 34.

A. Disposal Design Capacity

The process design capacity for disposal of mixed waste is approximately 21,408204 m3 (28,00027,734 yd3) per trench. The disposal volume is based on trench floor dimensions of 76 m (250 ft) long by 31 m (100 ft) wide and a depth of 9 m (30 ft).

B. Storage Design Capacity

Each of the associated container The storage capacity within Trenches 31 & 34 used prior to treatment of waste in the trenches is units provide approximately an additional10,000 XXX m3 (13,080XXX yd3) of storage area for waste containers prior to treatment and disposal within the trenches. See associated drawing for the location of storage area. Mixed waste is stored in Trenches 31 & 34 until the LDR certification is completed on the treated waste. When the LDR certification is completed, the treated mixed waste is then considered disposed.

C. Treatment Design Capacity and Treatment Description

Treatment by macro-encapsulation to meet the LDR treatment standards may be performed within the storage & treatment units associated with Trenches 31 & 34. The treatment capability consists of the use of immobilization technologies for mixed waste debris as listed under 40 CFR 268.45, Table 1, Alternative Treatment Standards for Hazardous Debris and MACRO in 40 CFR 268.42. In addition, themixed waste containers will meet the 90 percent full container requirements following treatment. Treatment would be limited to those technologies that can be employed in/on containerized mixed waste. The process design capacity for treatment is estimated to be 100 m3 (131 yd3) per day.

A diverse range of waste containers can be managed at Trenches 31 & 34 and the associated container storage units including, but not limited to, 18.9-, 208.2-, 321.8, 378.5-, and 416.40-L (5-, 55-, 85-, 100-, and 110-gal) containers/drums, waste boxes, and miscellaneous equipment.

Treatment via immobilization technologies for debris as listed in 40 CFR 268.45 Table 1, and MACRO as defined in 40 CFR 268.42 will be provided in Trenches 31 & 34 for mixed waste. Examples of mixed waste to be treated in Trenches 31 & 34 includes: macroencapsulation of difficult to manage containerized debris in various sized containers and lead subject to the MACRO LDR treatment standard.

The difficult-to-manage waste forms arrive in large boxes or containers, or as packages of long-length equipment, columns and cylinders. Packages can contain ports, annuluses, and/or surfaces amenable to treatment.

Layers of waste have been disposed in both Trenches 31 and 34 such that waste placement does not occur on the operational layer of the trench. Waste treatment in Trenches 31 & 34 will be conducted on top of the grout already existing in the trenches.